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ABSTRACT

This study was an attempt to determine if Black educationally and economically disadvantaged freshman students could increase their likelihood of success in college through an enriched summer program and if their prior experience with White persons had any effect on the attainment of these goals. Sixty seven socio-economically disadvantaged Black students with reasonable potential for college work began their collegiate education by participating in a summer experimental program at the University of Missouri-Columbia. The project students were assigned intc two groups--experimental (E) and control (C). Both groups enrolled in two lecture courses, but the experimental group was also assigned daily laboratory sections in each course. Half of Group E consisted of subjects with high exposure to Whites, and half consisted of those with lower prior exposure. Findings indicated that for the total group, experimental treatment did not make a difference in so far as the number of students who dropped out, or in grade point averages earned during the summer session and fall semester. There was no effect on GPA of students with high prior exposure to Whites. However, there was a negative effect on Black females with lower prior exposure to Whites and a positive effect on Black males with low prior exposure, on GPA. (Author/JM)

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FINAL REPORT

of

Project No. 2-G-070

Grant No. OEG 7-72-0050 (509)

Joseph S. Davis, Principal Investigator
Robert Callis, Project Director

University of Missouri
Columbia, Missouri 65201

THE EFFECT OF AN ENRICHED SUMMER PROGRAM AND PRIOR EXPERIENCE WITH WHITE PERSONS ON ACADEMIC SUCCESS OF INCOMING BLACK STUDENTS AND THE CONTINUING EFFECTS IN THE FOLLOWING SEMESTER

July, 1973

U.S. Department of
Health, Education, and Welfare
Office of Education
Region VII

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by

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ABSTRACT

This study was an attempt to determine if Black educationally and economically disadvantaged freshman students could increase their likelihood of success in college through an enriched summer program (Project START) and if their prior experience with White persons had any effect on the attainment of these goals.

Findings indicated that for the total group experimental treatment did not make a difference in so far as the number of students who dropped out, or in grade point averages earned during the summer session and fall semester. There was no effect on grade point average on Black males or females with high prior exposure to Whites. However, there was a negative effect on Black females with low prior exposure to Whites and a positive effect on Black males with low point exposure to Whites as far as

GPA was concerned. Only slight, non-significant changes in perception about the environment occurred as a result of the experimental treatment. Surprisingly, self-concept increased for Black student, male and females, with low prior expsoure to Whites and decreased for those students with high prior exposure to Whites.

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U.S. DEPARTMENT OF
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CHAPTER 1

THE PROBLEM

During the past several years many colleges and universities across the nation have been faced with a problem for which few solutions have been found, namely, how to predict and promote the educational success of Black students attending predominantly White universities. Black students find themselves in a substantially different environment and have a number of problems trying to adjust to the culture of a predominantly White university. Academic and other problems have led to such a high attrition rate for Black students that an effort must be made to determine variables causing success or failure of Black students matriculating in predominantly White universities.

Originally, most planned efforts to aid minority students were of a financial nature. This was indicative of a recognition by major universities to the effect that there were minority students who were adequately equipped to perform on a college level, but were handicapped in fulfillment of their desire to do so by financial deficiencies. This was followed by the initiation of programs such as "A Better Chance" (ABC) which began in 1964 by placing poor students who possessed the academic abilities and motivation necessary to do competitive college prepar-

atory work in boarding schools for their final two to four years of secondary education (Cash, 1970).

The effect of colleges shifting their emphasis to the minority youth, who previously would have been rejected because of various educational disabilities, resulted in other kinds of procedures and efforts to promote their college education. Included in these efforts were the lowering of requirements for college entrance in terms of high school grade point averages and standardized test scores. Another subsequent course of action was taken in the form of enrichment programs offered to give rejected applicants a chance to demonstrate their abilities on the college level, or to academically upgrade themselves. Some of these programs provided course credits which were applied toward the baccalaureate, once the students were officially classified as "freshmen." An example of this is the general studies program, still in its experimental stage at the University of Utah (Grant and Engleman, 1968).

The major concensus among educators is that many Black students who fail to meet traditional entrance requirements such as SAT and ACT scores and high school grade point averages can, and do survive in college with a successful outcome. Their success is significantly greater with additional academic, psychological and financial support (Green, 1969). This suggests that inability to adjust to the newness of the college milieu, rather

than intellectual incapability, may be a significant cause of students dropping out of college. This is especially true in the case where inability is associated with the lack of personal attention and undefined vocational goals (Chase, 1968). This is congruent with the evidence suggesting that there is very low predictive efficacy of either a generalized or institutional equation with respect to the academic success of educationally disadvantaged students at a given college (Hoyt, 1968).

Egerton (1968) noted that of 215 public and private colleges he surveyed, no more than 20-25 had drawn extensively upon resources to make their institutions accessible to high risk students, and that fewer than ten of these institutions had created truly experimental programs. Standardized tests, high school rank, and high school achievement are widely used, while extracurricular activities, recommendations, and interviews are less often used in admitting Blacks to special programs. Only eight schools out of eighty-seven indicated the use of community resources in Black admissions to insure retrieval of all pertinent information, a method which has been used by the University of Michigan and Michigan State University for several years (Hedegard and Brown, 1969; Sabine, 1968).

Despite the publicity and the apparent interest of the predominantly White universities in increasing the enrollment of Black students, very few Blacks are entering

these schools. In the fall of 1969, the median percent of Black freshmen in large predominantly White institutions nationally was 3% (Sedlacek and Brooks, 1970). Given the fact that there are few Blacks in attendance at such schools, what variables are related to Blacks staying in these institutions? Evidence is virtually unavailable at this point. Davis, Loeb, and Robinson (1970) found the picture that emerges of the Negro student in that of a student with relatively low academic preparation, as measured by ACT:C, and high aspirations, and one who will need to work part-time in order to support his education. While working toward his academic goals and being employed part-time, he also plans to be active in a variety of extracurricular activities.

It is reasonable to predict that the demands which beginning Negro freshmen appear to place upon themselves will result in frustration for many of them. Students who enter the university with academic preparation which is less than average should, through counseling and academic advising programs, be presented with a realistic picture of the academic barriers which they are likely to encounter. Whenever possible, such students should be offered financial assistance with minimal employment load, coupled with suitable modifications of academic programs designed to help them compensate for educational deficiencies. Both reduction of the student's high level of aspiration, and

an increase in special curricular or tutoring efforts is needed to augment his probability of academic survival. Such ameliorative efforts should be capable of reducing the incidence of frustration and its attendant aggression. Generally, there is a shortage of data available on variables associated with the success or failure of Black students. Katz (1969) summarized as follows:

> "Psychologists have contributed little to the understanding of the motivation problems of disadvantaged students. Scientific knowledge has barely advanced beyond the conventional wisdom of the teacher's lounge. In a sense, so few good data are available that virtually any competent foray into the area is bound to be fruitful."

A student's attitude toward the educational institution he attends may have an effect on his academic achievement at that institution (Cochran, 1969). A study by DiCesare, Sedlacek and Brooks (1970) found a picture emerging of Black students who returned to the university for the second semester to have more self-confidence and higher expectations than non-returnees. The returning students also felt more strongly that the university should influence social conditions in the state, solve more racism at the university and were more likely to live on campus and make use of its facilities than were non-returning Blacks. In short, the authors noted that it appeared that Blacks who stayed had a strong self-concept and took a more realistic view of their surroundings than non-returning

Blacks.

In other words, it could be that Blacks who stay in school have a strong self-concept and take a more realistic look at the university and adapt to it to achieve their goals. The importance of such variables has been noticed by several other writers. Pfeifer and Sedlacek (1970) found that self-concept was an important variable in the success of Black students at the University of Maryland, using grades as a criterion. Epps (1969) and Gurin, Lao, and Beattie (1969) found that successful Black students tend to have high aspirations and feel that they have control over their lives.

A study by Sampel and Seymour (1971) indicated that predicting the success of Black students is a dilemma. The data revealed that some of the well established predictors of academic success have little or no predictive value for Black males and only slightly more for Black females. They suggested that persons involved in the selection process should be keenly aware of the inadequacies of some of the predictors currently in use when they are applied to certain minority groups.

Purpose of the Study

The purpose of this research was to determine through an experimental program if Black, disadvantaged first-time freshman can attain academic success through an enriched residence training program of one summer session duration. Many Black students at UMC (University of Missouri - Columbia) have historically been unsuccessful in their quest for higher education. Lack of prior exposure to Whites in classroom settings may have affected students' participation in class, as well as their use of available supportive services. The attrition rate for Black students has far exceeded that of the remaining student population. Because of this, the Black communities in the State of Missouri have a negative concept about the University of Missouri - Columbia (UMC), which has created suspicion about its role in educating youngsters from disadvantaged backgrounds. The University has committed itself to educating youngsters from diverse backgrounds through its new non-traditional admission policy which in principle has opened its doors to minorities, poor, and disadvantaged people. The new policy states:

> "The University seeks to honor fully its educational commitments through experimental programs for limited numbers of educationally and economically disadvantaged students. Applicants to these programs must have a reasonable prob-

> ability of achieving success." (University of Missouri New Admissions Policy, 1972, p. 2).

To merely open the door is far from being all that is needed for assuring success in college. Therefore, experimental programs should be implemented. Hopefully, answers to the many problems facing the educators regarding disadvantaged students will be provided. A major emphasis of the program was to develop positive attitudes for academic pursuits and understandings of the various realities of achieving success within the institution.

Definition of Terms

The following terms are defined for use in this study.

1. Black Student - any student born in the United States of Afro-American heritage; synonomous with American Negro.

2. Dropout - is a term designating any student who voluntarily or involuntarily withdraws from UMC. The evidence for this is that he does not enroll for the following semester.

3. GPA - grade point average.

4. Economically Disadvantaged - students from lower socio-economic backgrounds. Their parent's income meet the Office of Economic Opportunity poverty criteria.

5. Educationally Disadvantaged - students who have been deprived, displaced or neglected as a result of inadequate school facilities, lack of motivation, inferior instruction, social deprivation, and inability of schools to provide adequate programs for the whole array of problems associated with the poor, Black, and disadvantaged students in general.

6. Experimental Group - first time Black freshmen enrolled

in an enriched summer session program (defined more fully in Chapter 3).

7. Control Group - first time Black freshmen enrolled in the same two courses as the experimental group but with no enrichment features (defined more thoroughly in Chapter 3).

Research Questions

The major questions studied in this research were as follows:

1. Did the experimental group have fewer drop-outs than the control group (a) at the end of the summer session, and (b) at the end of the subsequent semester?

2. Did the experimental group show higher grade point averages (GPA) than the control group (a) at the end of the summer session, and (b) at the end of the subsequent semester? Also, was sex or high/low prior exposure to Whites related to GPA?

3. Was there a significant interactive effect between prior exposure to Whites and treatment reflected in GPA for the summer session and fall semester?

4. Was there a significant relationship between prior exposure to Whites and utilization of supportive services (counseling and tutoring) during the summer session?

5. Did the experimental group show higher self-esteem than the control group at the end of the summer session and subsequent semester?

6. Did the experimental group show more positive percep-

tion of environment than the control group at the end of the summer session and subsequent semester?

CHAPTER 2

REVIEW OF THE RELATED RESEARCH

Dispenzieri and his colleagues reported research findings based on five and one-half years' operation of a special college program for disadvantaged students (mainly Black and Puerto Rican) with remediation, counseling, tutoring, and stipends as the principal supportive services (Dispenzieri, Dweller and Giniger, 1971). Initially very selective, the program subsequently reduced academic admissions standards. The program had poor graduation rates. Two-thirds withdrew before completing the Associate Degree. Most dropouts took clerical and other jobs and many continued in evening classes, but generally did not graduate from a community college despite educational and occupational aspirations. Dropouts were caused by motivational, family, personal, and financial problems or unsatisfactory college placement; they studied much less than survivors. Early college performances were considerably improved for students taking one-half the normal credit load and two remedial courses. The report concluded that performance should be improved by supportive services, and also stated that students need more time to study so that they study effectively.

The Miami Dade Junior College study (Losak, 1972)

showed that remedial reading and writing programs for educationally disadvantaged students produced no meaningful differences in GPA's or dropout rates when compared with a similar group of students who were afforded no remedial services.

As part of A Better Chance (ABC) Research Project, an independent schools talent search program was conducted at Mt. Holyoke College during the summer of 1967 to aid disadvantaged high school students from thirteen states. Their aims were to help these students with college potential to strengthen their academic skills and achievements and encourage them to seek college admission (Kerr and Russell, 1968). Curriculums stressed mathematics and English. Resident tutors supervised daily evening study periods and extra academic activities were also included. Although the program was available for only six weeks, the students left with a greater awareness of their capabilities and scope of learning.

Findings reported by Pappas (1970) indicated that additional orientation beyond that which is experienced during a pre-college program was beneficial for students beginning their college education. Both approaches, pre-college only where students attended a two day session during the summer, and directive factual where students attended two additional one hour orientation meetings, during the school year, seemed to facilitate higher aca-

demic achievement when compared to a control group.

Concern has been shown for the status of higher education for disadvantaged students in California (Martyn, 1968). The programs in operation at public and private colleges and universities were geared toward increasing the accessibility of higher education for students from disadvantaged circumstances. Noted were special actions in recruitment, financial assistance and efforts to increase the students' interest and motivation in obtaining their college education. Special tutorial and training programs, as well as general community assistance directly and indirectly encouraged students to develop their potential. Stated below are the results of those programs:

(1) The UCLA "Upward Bound Program" had thirteen graduates; all thirteen went to college.

(2) The Davis campus made no formal evaluation, but reported the program as successful.

(3) The figures for 1971 showed 137 in "Educational Opportunity Programs" (EOP) and only 7 were lost through academic dismissal.

(4) At Riverside the program was reported successful because of the retention of students and their success on campus.

(5) San Francisco's evaluation was informally taken in the form of feedback.

(6) San Diego provided special job and scholarship

opportunity programs, resulting in 33 disadvantaged youths registering on campus as full-time university students.

(7) On the Santa Barbara campus the number of minority students on campus increased significantly.

(8) The City College of San Francisco had a pilot program during the summer of 1967 to interest high school seniors in preparing for vocational majors. Two hundred and twenty-two entered the program and one hundred and ninety-two finished (six week program) with an average GPA of 2.66.

A program was conducted by the City University of New York for helping disadvantaged youth prepare and succeed in college. An urban center was set up as a college adapter program and helped high school students who were not qualified for college admission. This program was named "Evaluation of Knowledge" (EOK) and offered counseling, remedial and tutorial programs. Its goals were to identify ninth grade students whose potential was suitable for higher education, but whose school records indicated achievements too low for college competition, and to increase academic motivation through a three year high school program (Brady, 1969).

Froe (1964) attempted to clarify the problems of educational planning for disadvantaged college youth. He presented a study of the characteristics of the learner

which are related to academic achievement and analyzes the pressures and expectations of college curriculum. Behavior and attitudinal traits of disadvantaged Black youths were identified and suggestions for coping with learning handicaps on the college level were offered. Cultural enrichment programs, close and frequent contact with instructors, intensified counseling and guidance aid, and individualized and programmed instructions were also offered to these disadvantaged students in order to assist them in coping with their own problems.

Brady (1968) produced findings in a longitudinal study to discover and develop the college potential of disadvantaged high school youth. This program sought to identify underachievers and disadvantaged high school students with college potential to increase their academic motivation and improve their scholastic skills. This program also sought to develop disadvantaged youths' acceptance of college study as a realistic expectation for themselves and to facilitate their college success.

Wilson (1970) studied the effects of testing and counseling on academic success. He studied mean college GPA, value changes as measured by pre- and post-test scores on the Allport, Vernon and Lindsey, "Study of Values," and the number of persons who fell into the categories: dropout, academic probation, GPA of less than 2.0 and GPA of 2.0 or more. Eighty-nine Negro freshmen were randomly

divided into two groups. One of these, the experimental group, was provided with special tutoring and counseling for the first semester. The control group was given no special assistance. The results indicated that there were no significant differences between the two groups in GPA, and value changes, nor did the use of different counselors for the experimental groups seem to make any difference. There was evidence, however, that Negro freshmen responded better to a Negro counselor than either a male or female White counselor. With the exclusion of the laboratory sessions the study closely resembles UMC's Project START in design.

Project "SEEK" (Search for Education, Evaluation and Knowledge), (Berger, 1968) a program designed to help educationally disadvantaged Black and Puerto Rican youth in New York City by providing open admissions and support services proved successful. Findings revealed that out of 110 students who enrolled in September of 1965, 59 of them continued college, and for the most part, were enrolled in courses with regular matriculated day session students. In two and one-half academic years they completed anywhere from 9 to 75 credits, averaging approximately 45. During the fall of 1967, they took an average of 9 credits and 91% of the students earned at least a "C" average in their credit courses, with 18% of them doing "B" work.

In a community college study (Bertock, 1970) it was

found that high risk students have unique problems that block academic success. These problems were:

(1) illness, especially in winter

(2) frequent lateness and absence not related to illness

(3) lack of money for transportation, books, and entertainment

(4) family financial needs.

(5) study, and need for privacy conflicts

(6) fear of failure and fear that success might cause alienation in the community

(7) frustration, depression and anger.

The entire staff met each week to discuss students and their problems. Two factors that made change possible were manageable environment - faculty and students control what happens to them, and that people were accessible and shared responsibility. It was stressed that colleges must admit these students by waiving their standard admission requirements, revising dismissal procedures, supportive teaching, flexible programming, and versatile staff. There was no tragic impact on campus by admitting these students and active cooperation from each department was at a high level. In reviewing the final grades of students who completed the junior year, there appeared to be great personal and group pride. No juniors in any course had received a grade of less than "C", in several cases "B's" and "A's"

were predominant.

Keetz (1970) reported findings on 53 freshmen enrolled at Philadelphia College of Pharmacy and Science who had failed one or more courses. A battery of reading and study skills tests were administered to all. Based on test results they were divided into experimental and control groups. The course included 13 sessions. Effectiveness was determined by comparing the two on various criterion measures employed in the study. Results showed no statistically significant differences in the two groups in reading rate and comprehension of usual college materials, comprehension of science materials, and ability to study a textbook assignment.

Hull (1969) in a report by Pennsylvania State University on culturally deprived students, involving deans from the ten colleges within Pennsylvania State University, established certain guidelines for the "special admission" student. There was general agreement among each of them regarding the following: the "special admission" student would not be separated as a group from other entering freshmen; the former students were to be assimulated as rapidly as possible into the ranks of the regular students; centralization or at least coordination in selecting the "special admission" students was felt essential. These students were to be provided with whatever individual attention was required, and grading methods were not to be

altered in any way for the "special admission" students. The results of this study was that "special admission" students turned out to be basically "economically disadvantaged" or "racially disadvantaged" rather than "high risks" academically. As one Dean put it, "they are the 'cream of the crop.'"

Previous attempts at admitting and educating an atypical student indicated that success was dependent upon "...adequate counseling, chiefly academic but carrying over to personal and social areas, and on a heterogeneous - not wholly remedial - academic program allowing for a sense of accomplishment early in the student's career." To varying degrees, the colleges are prepared to provide more of the first half of this than the latter.

The question as to the responsibility of Pennsylvania State University for educating the student who is below the normal academic standard goes unanswered. Some of the Deans seemed unsure in their own minds about the assumption "equal educational opportunity does not result from treating all pupils equally."

The issue of compensatory education, attempting to provide a supplementary educational experience for the atypical student to insure him of a fair chance for success is a complex one. The very existence of a need for compensatory education at the college level implies one of the following: (1) that the lower schools have failed to

educate adequately the atypical student, (2) that his environment has in some way contributed to his atypical situation as a student, and (3) that teachers in the regular courses within higher education are not prepared, either through lack of time, skills, or resources, to offer the individual atypical student the attention he requires if he is to be met at his own level.

The argument for compensatory education is that students who grow up in a ghetto receive an inferior education in terms of traditional academic criteria, therefore, they are inadequately prepared and cannot be expected to compete with students who have received a superior education. The university has the opportunity to correct the effects of the past for these students through individualizing the educational process to meet the particular student's needs. Proponents point out that experience so far with Black atypical students indicate that Blacks are well motivated in programs where they see relevance for their future. On this account, compensatory education advocates argue that the institution of higher education should frankly lay its standards on the line, offer the Black atypical student the chance for re-education complementary to the regular curricular program, and be willing to see the utilization of the institution's service to society. The Black student, however, is beginning to seek and find entrance into institutions of higher education. One source optimistically

claims, (Williams, 1969), ..."probably more than fifty percent of the institutions of higher education in this country now have special programs for the disadvantaged or high risk students."

Self-concept plays a very significant role in college success. The research findings by Olsen (1971) utilized Brookover's social-psychological theory of learning for evaluating the level and/or change in self-concept of academic ability, significant others and academic significant others of 121 Black and White compensatory education students.

As a result of exposure to compensatory education there was a significant positive change in self-concept of academic ability for compensatory education students in general, as well as for Blacks and Whites. Males and females also had a significant positive change.

The students identified parents, teachers, relatives, friends, offspring, spouse and themselves as significant and academic significant others. There were significant changes in offspring, friends, teachers, spouse and themselves as significant others, and themselves, spouse, offspring and relatives as academic significant others as a result of compensatory education.

Eight semantic differential scales were administered in a study instituted to determine whether attitude scales standardized on a White population falters when applied to

Black subjects (Denmark, 1969). Six of the scales were related to higher learning differences for Blacks. This gives rise to the possibility that for certain ethnic groups either values must be changed to insure academic success, or perhaps the criteria for academic success must be reevaluated.

The literature has revealed information concerning programs and services similar to the one posed by the writer. Berger (1968), DiCesare, Sedlacek and Brooks (1970), Green (1969), Hull (1969), Martyn (1968) and Pfiefer and Sedlacek (1970) showed that proper motivation, tutoring, and counseling have a significant effect upon a student's success in college (increased GPA). The studies by Dispenzieri, et. al., (1971), Losak (1972) and Wilson (1970) seem to indicate that special services do not have any significant effect upon a student's success in college. As a result of the above findings the writer attempted to use these significant variables with the addition of prior exposure to Whites in an attempt to influence positively GPA, dropout rates, self-esteem, perception of environment, and use of supportive services.

Realizing that there is a prediction dilema for Black students as was indicated by Seymour and Sampel (1971), the writer did not feel that an emphasis on academic variables was as important, but that a greater use of non-academic variables would enhance overall success in college

for those subjects in the experiment. The literature indicated that with proper motivation, maturity on the part of college students, that GPA's could be increased parallel with self-esteem, perception about the environment, and subsequently reduce the number of dropouts.

CHAPTER 3

DESIGN AND METHODOLOGY

Project START (Success Through Advance Residence Training) began its pilot program at the University of Missouri-Columbia (UMC) during the eight week summer session of 1972.

Sixty-seven socio-economically disadvantaged Black students with reasonable potential for college work were invited to start their collegiate education by participating in a summer experimental program (Project START) at UMC. The program provided economically and educationally disadvantaged youngsters from many of the state's high schools an opportunity to start their college studies during the summer session immediately following their high school graduation. The experimental program was designed to provide educational, financial and psychological support services beyond regular university services.

Sample

Students were selected for the program on the basis of financial needs, interest, motivation, academic potential and recommendations. All students were interviewed prior to their selection.

The criterion for selection was as follows:

1. Economically Disadvantaged - Most students were from lower socio-economic backgrounds. Their parents' income met the Office of Economic Opportunity poverty criteria.

2. Educationally Disadvantaged - Preference was given to students who had been deprived, displaced or neglected as a result of inadequate school facilities, lack of motivation, inferior instruction, social deprivation, and inability of schools to provide adequate programs for the whole array of problems associated with the poor, Black, and disadvantaged students in general.

3. Recommendations - The recommendations of principals, counselors, teachers, student task force, and peers rated highly in the selection criteria.

4. Interviews - A personal interview by the Coordinator of Minority Student Programs, Director of Financial Aid, and the Assistant Director of Admissions was conducted with each student.

5. Interest - Preference was given to students who had a strong interest in matriculating at the University of Missouri in Project START, and who aspired to succeed in obtaining a bachelor's degree.

After the subjects were enrolled for the summer session, additional data became available which permitted a check on the adequacy of the selection committee's assessment of "education and economic disadvantage." These data were (1) calculated financial need, (2) score on the Missouri College English Test, and (3) score on the Missouri Mathematics Placement Test. As shown in the tabulation below, the vast majority of these subjects were both economically and educationally disadvantaged. Calculated financial need is the net amount of financial assistance a student needed for the academic year 1972-73. The maximum financial need is $2,000. The T-score is the official UMC norms.

Calculated financial need	f	MEPT T-score	f	MMPT T-score	f
$2,000	51	70-79	0	70-79	0
1,800	6	60-69	0	60-69	1
1,600	4	50-59	0	50-59	4
1,400	1	40-49	15	40-49	11
1,200	2	30-39	23	30-39	28
1,000	2	20-29	29	20-29	13
Zero	2	10-19	0	10-19	0

Treatment

The project students were assigned randomly by strata (sex) into two groups -- experimental (E) and control (C), with Group E having thirty-three subjects and Group C thirty-four subjects. The groups were balanced by sex. Both groups were enrolled in two courses, College Algebra and English Composition. There were four sections of each course. Students were assigned to lecture sections without regard to their assignment to group E or C. Exceptions were made for the two students that received course credit for College Algebra, and two who received credit for English Composition because of high scores on the Missouri Placement Tests.

The College Algebra class met for a two-hour class period each day. Both groups were expected to attend these lecture sessions.

In addition, the Group E was assigned to a one hour College Algebra laboratory which met daily. The English Composition class met for a one-hour class period each day. Both groups were expected to attend their lecture sessions. In addition, Group E was assigned to a one-hour English Composition laboratory which met daily. The laboratory sessions provided individualized instruction with attention focused on the strengths and weaknesses in mathematics and English. The two laboratory sessions in English had six-

teen students in one and seventeen in the other. Laboratory sections were assigned on the basis of prior exposure to Whites. Half of Group E consisted of subjects with high prior exposure to Whites and the other half consisted of those with low prior exposure to Whites. There were two laboratory sections for each course. Four faculty members were used for each course. Two professors taught College Algebra and two assistant professors taught the laboratory sessions. The same structure was used for the English Composition course.

The two courses were ones that are offered during the regular summer session with no laboratories provided for Group C. White students were in attendance during the regular class sessions. A check was made to determine if Group E or Group C students had made contact with the regular university supportive services. These supportive services were available on a regular basis. The supportive services included tutoring, advisement, counseling, and study skills sessions.

Group E students were required to attend twice each week, a two hour group counseling session. This session was staffed by six counseling staff members from the Testing and Counseling Center. Those Black students that had high prior exposure to Whites were placed in all Black counseling groups, while those with low prior exposure to Whites were placed in groups that were half Black and half

White.

The students were required to live in the residence halls for the duration of the summer program. Group E and Group C males were assigned to separate floors. Also, the Group E and Group C females were assigned to separate floors. Experimental group members room assignments were scattered throughout the second floor of both male and female dromitories. The control group students were assigned rooms which were scattered on the first and third floors of the dormitories. This floor plan was designed to minimize the amount of contact between the two groups. It also gave students in the program an opportunity to acquaint themselves with students not in the program, thereby, providing additional exposure to Whites.

Four upperclass Black students were employed as advisors during the summer session. The advisers, two males and two females, lived in the residence halls during the treatment period. Their function was to provide information and guidance to the students in the program. The advisers attended some classes with the students and participated with them in many recreational activities. Several feedback sessions were held to discuss the progress of individual students.

Data Collection and Instrumentation

All project students were pre-tested (T0) and post-

tested twice (T1, T2) on two instruments. Post-test one (T1) was administered at the end of the summer session. Post-test two (T2) was administered two weeks prior to the end of the fall semester. The first instrument used was the College and University Environment Scale (CUES), (Pace, 1967). The CUES was designed to measure the perception of the intellectual, social and cultural climate of a campus. It was designed for use on college and university campuses, and measures perception of environment in the following seven major areas:

Practicality Scale (PR) - The 20 items that contribute to the score for this scale describe an environment characterized by enterprise, organization, material benefits, and social activities. There are both vocational and collegiate emphasis.

Community Scale (CO) - The items in this scale describe a friendly, cohesive, group-oriented campus.

Intellectual Awareness Scale (IA) - The items in this scale reflect a concern about and emphasis upon three sorts of meaning; personal, poetic, and political.

Propriety Scale (PO) - These items describe an environment that is polite and considerate. In general, the campus atmosphere is mannerly, considerate, proper, and conventional.

Scholarship Scale (SC) - The items in this scale describe an environment characterized by intellectuality and

scholastic discipline. The emphasis is on competitively high academic achievement and a serious interest in scholarship.

Campus Morale (MO) - The items in this scale describe an environment characterized by acceptance of social norms, group cohesiveness, friendly assimilation into campus life, and, at the same time, a commitment to intellectual pursuits and freedom of expression. Intellectual goals are exemplified and widely shared in an atmosphere of personal and social relationships that are both supportive and spirited.

Quality of Teaching and Faculty-Student Relationships (TE) - This scale defines an atmosphere in which professors are perceived to be scholarly, to set high standards, to be clear, adaptive, and flexible. At the same time, this academic quality of teaching is infused with warmth, interest, and helpfulness toward students.

The data on reliability was available in the CUES manual (Pace, 1967), showing estimates based on coefficient Alpha. Individual scale estimates were as follows: Practicality, .89; Community, .92; Awareness, .94; Proprietory, .89; and Scholarship, .90. The special subscale for measuring the quality of teaching and faculty student relations was also reported. Based on a reference group of 100 institutions, the actual range of scores was from 6 to 22, with a mean of 13.89, a standard deviation of 3.69, and

a reliability of .83.

Validity data was reported on CUES showing positive correlations, (.40's to .60's) between CUES scores and various characteristics of students and institutions.

The second instrument used was the Rosenburg's Self-Esteem Scale (Rosenburg, 1965). This scale was correlated with numerous self-image indexes and was normed on Black populations in several urban centers. Scores on the self-esteem scale have a possible range of from a low of 0 to a high of 40. This scale was administered at the beginning of the summer session (T0); at the end of the summer session (T1); and two weeks prior to the end of the fall semester (T2).

The Rosenburg Self-esteem Scale, (Rosenburg, 1965) has reported a Guttman reproducibility coefficient of .93. The scalability (items) coefficient is .73, while the scalability (individual) is .72. The scalability coefficient corrects for the confounding effects of extreme items by ruling out empirically impossible errors.

The third instrument a Structured Interview Sheet (Appendix B), containing eight questions, was administered at the beginning of the summer session to determine the amount of prior exposure to Whites. These questions were developed in the Office of Minority Student Programs and were administered orally. All subjects that responded to five or more questions in the 50% and below category were

designated low prior exposure.

The grade reports provided by the registrars office for all subjects were collected at the close of the summer session (S-72) and fall semester (F-72). Grade point averages were computed based on A = 4, B = 3, C = 2, D = 1, and F = 0. The registrars office provided information on subjects that did not enroll for the fall and winter semesters.

Criteria

The experimental treatment was designed to study ways to promote a substantial increase in GPA, reduce dropout rates, increase self-concept, and improve perceptions about environment. The laboratory sessions for mathematic and English courses were designed to upgrade skills in both subjects, thereby increasing GPA's. A satisfactory GPA represents a successful experience which subsequently should increase one's self-esteem. With an increase in skills, a satisfactory GPA, and positive self-esteem an enhanced perception about the environment might be expected, thereby reducing the dropout rate substantially.

Group counseling was designed to help students explore self and to reduce the anxieties and frustrations which follow the lack of information about self. Many students come to college without clearly defined educational and vocational goals. The group counseling sessions were aimed

at stimulating and supporting realistic educational and vocational goals.

Analysis of Data

Several statistical techniques were used in analyzing the data. A *t*-test for independent samples was used to determine the significance of difference between means on GPA's for the experimental and control groups, males and females, and prior exposure to Whites.

The Chi Square test for independent samples was the statistic used to determine the significance of difference between the experimental and control groups and dropouts for summer and fall as well as with high or low use of the supportive services added.

A pre/post-test design (T0, T1, T2) using the Hotelling's T^2 was employed to determine the change in perceptions of environment as indicated by change scores on CUES between the experimental and control groups.

A four-way analysis of variance with repeated measures was used to determine the significance of difference between means for self-esteem, group, sex, prior exposure to Whites and T0 X T1 X T2. Raw scores were used to compute mean gains on the self-esteem scale from T0 to T1, T2. All analytical test differences were tested at the .05 level of significance and all significant F values were further analyzed by Duncan's New Multiple Range Test.

CHAPTER 4

RESULTS

Black students attending a predominantly White university experience many problems. The expectations that they bring, along with inadequate academic skills are oftentimes such that they are not able to cope with the situation. Retention and satisfactory GPA are of paramount importance in evaluating the effectiveness of experimental programs for Black students.

Question 1

Did the experimental group have fewer dropouts than the control group (a) at the end of the summer session and (b) at the end of the subsequent semester? Of the sixty-seven who entered the program, twelve were dropped at the end of the summer session for academic reasons. The remaining fifty-five registered for the fall semester. Nine dropped at the end of that semester for academic and personal reasons. This produced a dropout rate of 31% for the combined groups total period. A Chi Square test of significance, including Yates Correction, was computed to determing if a significant difference in dropouts between experimental (E) and control (C) groups did occur at the end of the summer session (S-72) and fall semester (F-72). No significant differences were found (Tables 1 and 2).

TABLE 1

A Chi Square Test of Significance for the Dropout Rate of Experimental (E) and Control (C) Groups for the Summer Session (S-72)

	Status		
Group	Dropped	Stayed	Total
E	4	29	33
C	8	26	34
Total	12	55	67

$X^2 = 0.81$
df = 1
P .05

TABLE 2

A Chi Square Test of Significance for the Dropout Rate of Experimental (E) and Control (C) Groups for Summer Session (S-72) and Fall Semester (F-72) Combined

	Status		
Group	Dropped	Stayed	Total
E	9	24	33
C	12	22	34
Total	21	46	67

$X^2 = 0.20$
df = 1
P .05

Question 2

Did Group E show higher grade point averages (GPA) than Group C (a) at the end of the summer session (S-72) and (b) at the end of the subsequent semester (F-72) and (c) was GPA related to sex or prior exposure to Whites?

Using GPA as a dependent variable the t-test was used to determine if there were significant differences between means for the experimental (E) and control (C) groups, males (M) and females (F), and subjects with high (H) or low (L) prior exposure to Whites. No significant differences were found when these comparisons were made (Tables 3, 4, 5). It should be noted here that two of the fifty-five subjects who enrolled for the fall semester withdrew shortly after T2 testing was completed. They were retained in the sample as having earned a zero GPA. One was in Group E and one in Group C. Both were females.

Question 3

Was there a significant interactive effect between prior exposure to Whites and experimental treatment reflected in GPA for (a) the summer session (S-72) and (b) fall semester (F-72)?

This further examination of the grade point averages as a dependent variable focused on the question of interaction between sex and assignment to experimental (E) and control (C) groups. Prior exposure to Whites was explored as a variable. A significant interaction between sex and

the experimental treatment was found, with the experimental males and control females earning higher mean GPA's than did the experimental females and control males ($P > .01$, see Table 6).

TABLE 3

Test of the Significance of the Difference Between Mean Grade Point Averages (GPA's) for Experimental (E) and Control (C) Groups for the Summer Session (S-72) and Fall Semester (F-72)

Group	N	$\bar{X}$	s	t	p
S-72					
E	33	1.92	0.89	0.86	NS
C	34	1.71	1.09		
Total	67				
F-72					
E	29	1.26	0.55	-0.24	NS
C	26	1.30	0.67		
Total	55				
S-72 and F-72					
E	29	1.71	0.60	-0.18	NS
C	26	1.74	0.60		
Total	55				

TABLE 4

Test of the Significance of the Difference Between Mean Grade Point Averages (GPA's) for Males (M) and Females (F) for the Summer Session (S-72) and Fall Semester (F-72)

Group	N	$\bar{X}$	s	t	p
S-72					
M	27	1.72	1.07	-0.59	NS
F	40	1.88	1.02		
Total	67				
F-72					
M	22	1.39	0.59	1.13	NS
F	33	1.21	0.60		
Total	55				
S-72 and F-72					
M	22	1.74	0.62	0.20	NS
F	33	1.71	0.58		
Total	55				

TABLE 5

Test of the Significance of the Difference Between Mean Grade Point Averages (GPA's) for Those Students Having High and Low Prior Exposure to Whites for the Summer Session (S-72) and Fall Semester (F-72)

Group	N	$\bar{X}$	s	t	p
S-72					
H	30	1.92	0.94	0.73	NS
L	37	1.73	1.12		
Total	67				
F-72					
H	26	1.27	0.55	-0.13	NS
L	29	1.29	0.65		
Total	55				
S-72 and F-72					
H	26	1.73	0.53	0.10	NS
L	29	1.72	0.65		
Total	55				

Further analysis indicated that the subjects earned higher mean GPA's during the summer session than they did the following semester ($P > .001$, see Table 6). The experimental treatment X sex X semester interaction was also significant ($P > .05$, see Table 6). These findings were expanded by the Duncan's New Multiple Range Test. Due to unequal cell sizes a Kramer Extension was performed (Kramer, 1956). The Duncan's New Multiple Range Test was plotted to show that the significant main effect was between summer session (S-72) and fall semester (F-72). When taken as a main effect the experimental treatment was not found to be significant with regard to grade point average, nor were significant differences obtained for sex when the interaction of grades was examined. Tables 6 and 7 present the descriptive data for the subgroups along with a complete analysis of grade point average by group, sex, and prior exposure to Whites for summer session (S-72) and fall semester (F-72). There was a significant interaction for group X sex X exposure. This is difficult to interpret. Of the four low exposure groups, two of them (EML and CFL) made the highest GPA and two of them (CML and EFL) made the lowest GPA with the four high exposure groups falling in between. In order to visualize this finding more clearly, the data were plotted as Figure 1. Althought the size of the subgroups are small, certain trends or hypotheses are suggested. It would appear that prior exposure to Whites

TABLE 6

Test of the Significance of Difference Between Means for Grade Point Average for the Summer Session (S-72) and Fall Semester (F-72) by Group and Sex

Group	N	$\bar{X}$ (GPA)	s
Group			
E	58	1.71	0.82
C	50	1.78	0.77
Sex			
M	44	1.76	0.76
F	64	1.73	0.83
Group X Sex			
EM	24	1.96	0.84
EF	34	1.53	0.76
CM	20	1.51	0.57
CF	30	1.96	0.85
S-72 F-72			
S	54	2.17	0.78
F	54	1.32	0.55
Group X S-72 F-72			
ES	29	2.16	0.81
EF	29	1.29	0.55
CS	25	2.18	0.76
CF	25	1.39	0.57
Sex X S-72 F-72			
MS	22	2.09	0.82
MF	22	1.43	0.52
FS	32	2.22	0.76
FF	32	1.24	0.57
Group X Sex X S-72 F-72			
EMS	12	2.42	0.90
EMF	12	1.50	0.48
EFS	17	1.98	0.72
EFF	17	1.09	0.53
CMS	10	1.70	0.54
CMF	10	1.34	0.58
CFS	15	2.50	0.73
CFF	15	1.41	0.58

Table 6 (concluded)

Analysis of Variance

Source	SS	df	MS	F	P
Between Subjects		53			
Group	0.00	1	0.00	0.00	NS
Sex	0.00	1	0.00	0.00	NS
Group X Sex	4.92	1	4.92	6.93	.01
Subjects with Groups [error (between)]	31.02	50	0.62		
Within Subjects		54			
S-72 F-72	16.91	1	16.91	75.74	.001
Group X S-72 F-72	0.19	1	0.19	0.85	NS
Sex X S-72 F-72	0.76	1	0.76	3.39	NS
Group X Sex X S-72 F-72	0.91	1	0.91	4.08	.05
[error (within)]	11.16	50	0.22		

Duncan's New Multiple Range Test

Group X Sex:	CM	EF	CF	EM				
Semester:	Fall		Summer					
Group X Sex X Semester:	EFF	CMF	CFF	EMF	CMS	EFS	EMS	CFS

TABLE 7

Test of the Significance of the Difference Between Means for Grade Point Average of Summer Session (S-72) and Fall Semester (F-72) by Group, Sex, and Prior Exposure to Whites

Group	N	$\bar{X}$ (GPA)	s
Group			
E	58	1.71	0.82
C	50	1.78	0.77
Sex			
M	44	1.76	0.76
F	64	1.73	0.83
Exposure			
H	52	1.73	0.75
L	56	1.75	0.84
Group X Sex			
EM	24	1.96	0.84
EF	34	1.53	0.76
CM	20	1.51	0.57
CF	30	1.96	0.85
Group X Exposure			
EH	32	1.72	0.78
EL	26	1.70	0.88
CH	20	1.76	0.73
CL	30	1.80	0.82
Sex X Exposure			
MH	22	1.82	0.72
ML	22	1.70	0.81
FH	30	1.67	0.78
FL	34	1.79	0.87
S-72 F-72			
S	54	2.17	0.78
F	54	1.32	0.55
Group X S-72 F-72			
ES	29	2.16	0.81
EF	29	1.29	0.55
CS	25	2.18	0.76
CF	25	1.39	0.57

Table 7 (continued)

Group	N	$\bar{X}$ (GPA)	s
S-72 F-72 X Exposure			
SH	26	2.19	0.65
SL	28	2.14	0.90
FH	26	1.27	0.54
FL	28	1.37	0.56
Sex X S-72 F-72			
MS	22	2.09	0.82
MF	22	1.43	0.52
FS	32	2.22	0.76
FF	32	1.24	0.57
Group X Sex X S-72 F-72			
EMS	12	2.42	0.90
EMF	12	1.50	0.48
EFS	17	1.98	0.72
EFF	17	1.09	0.53
CMS	10	1.70	0.54
CMF	10	1.34	0.58
CFS	15	2.50	0.73
CFF	15	1.41	0.58
Group X Sex X Exposure			
EMH	18	1.83	0.75
EML	6	2.35	1.06
EFH	14	1.57	0.82
EFL	20	1.51	0.75
CMH	4	1.75	0.66
CML	16	1.46	0.56
CFH	16	1.76	0.77
CFL	14	2.19	0.91
Group X S-72 F-72 X Exposure			
ESH	16	2.13	0.78
ESL	13	2.19	0.87
EFH	16	1.31	0.54
EFL	13	1.21	0.57
CSH	10	2.30	0.35
CSL	15	2.10	0.95
CFH	10	1.21	0.59
CFL	15	1.50	0.54

Table 7 (continued)

Group	N	$\bar{X}$ (GPA)	s
Sex X S-72 F-72 X Exposure			
MSH	11	2.18	0.75
MSL	11	2.00	0.92
MFH	11	1.45	0.49
MFL	11	1.40	0.58
FSH	15	2.20	0.59
FSL	17	2.23	0.90
FFH	15	1.34	0.57
FFL	17	1.34	0.58
Group X Sex X S-72 F-72 X Exposure			
EMSH	9	2.22	0.83
EMSL	3	3.00	1.00
EMFH	9	1.44	0.41
EMFL	3	1.69	0.73
EFSH	7	2.00	0.76
EFSL	10	1.95	0.72
EFFH	7	1.13	0.66
EFFL	10	1.06	0.46
CMSH	2	2.00	0.00
CMSL	8	1.62	0.58
CMFH	2	1.50	1.03
CMFL	8	1.29	0.52
CFSH	8	2.37	0.35
CFSL	7	2.64	1.03
CFFH	8	1.14	0.52
CFFL	7	1.74	0.50

Table 7 (continued)

Analysis of Variance

Source	SS	df	MS	F	P
Between Subjects		53			
Group	0.01	1	0.01	0.01	NS
Sex	0.17	1	0.17	0.27	NS
Exposure	0.45	1	0.45	0.73	NS
Group X Sex	4.30	1	4.30	7.03	.01
Group X Exposure	0.12	1	0.12	0.19	NS
Sex X Exposure	0.03	1	0.03	0.04	NS
Group X Sex X Exposure	2.13	1	2.13	3.48	NS
[error (between)]	28.13	46	0.61		

Table 7 (concluded)

Analysis of Variance

Source	SS	df	MS	F	P
Within Subjects		54			
S-72 F-72	14.65	1	14.65	63.45	.001
Group X S-72 F-72	0.24	1	0.24	1.03	NS
Sex X S-72 F-72	0.30	1	0.30	1.30	NS
Exposure X S-72 F-72	0.00	1	0.00	1.30	NS
Group X Sex X Exposure	1.85	1	1.85	3.70	.05
Group X S-72 F-72 X Exposure	0.35	1	0.35	1.51	NS
Sex X S-72 F-72 X Expsoure	0.14	1	0.14	0.61	NS
Group X Sex X S-72 F-72 X Exposure	0.04	1	0.04	0.16	NS
[error (within)]	10.62	46	0.23		

Duncan's New Multiple Range Test

CML EFL EFH CMH CFH EMH CFL EML

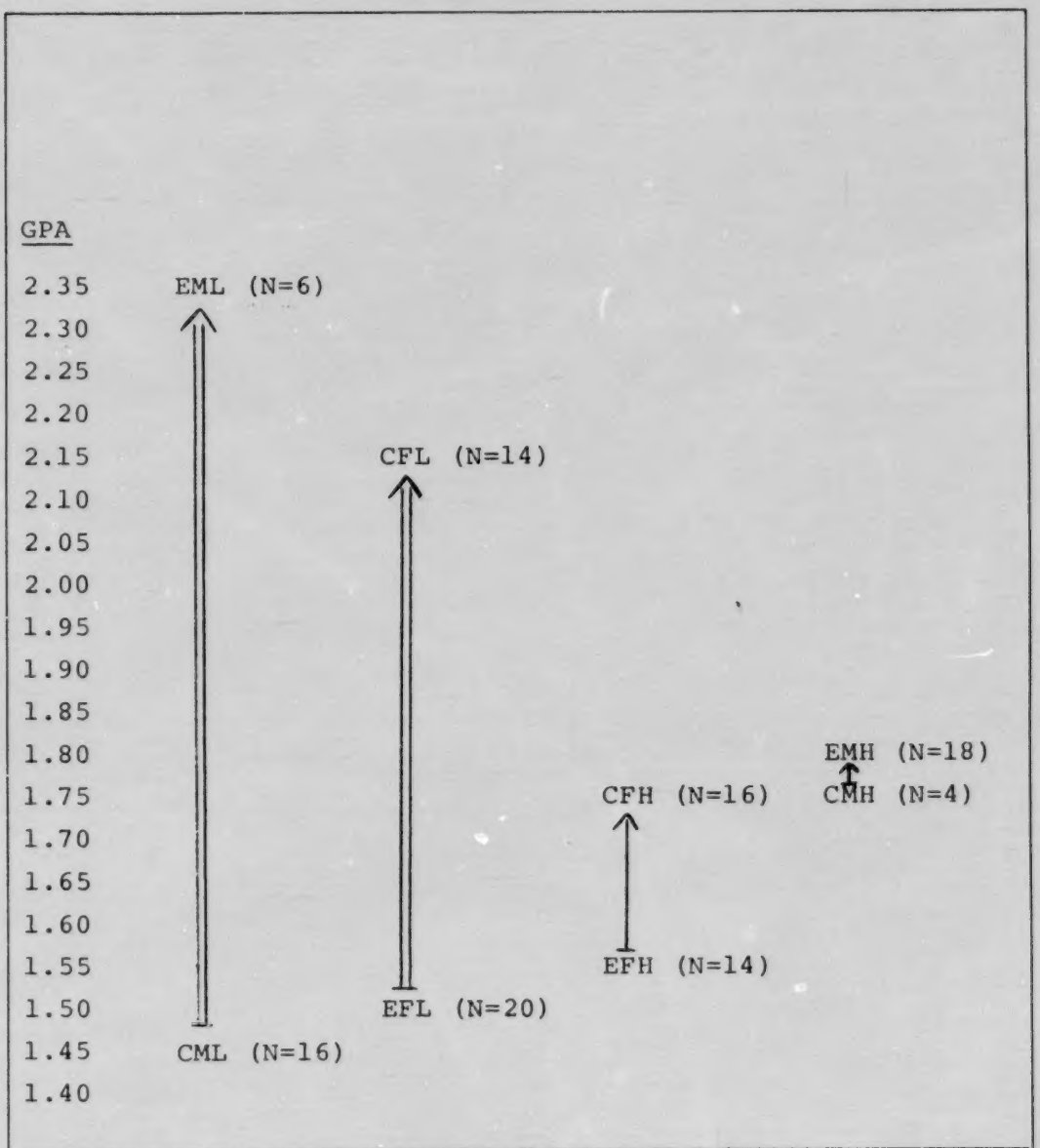

Figure 1. A Comparison Between GPA (S-72 plus F-72) of Subjects When Classified by Treatment Group (E or C), Sex (M or F), and Prior Exposure to White (H or L). (A double line between two groups indicates that the difference is significant.)

may be an important variable and that for the low prior exposure to White groups the sexes respond in opposite ways (as far as GPA is concerned) to treatment such as Project START. The treatment seems to have no effect on Black males with high prior exposure to Whites and possible a negative effect on Black females with high prior exposure to Whites.

Question 4

Was there a significant difference between prior exposure to Whites and utilization of supportive services (counseling and tutoring) at the end of the summer session?

Data on the utilization of counseling and tutorial services as related to prior exposure to Whites were analyzed. The information obtained on the number of visits to counselors and tutors was dichotomized (when the number of visits was greater than one, that subject was classified "high contact") to yield a high contact group (N = 30) and a low contact group (N - 37). The subjects of the study were cast into high and low prior exposure categories as decided above. These data were entered into a four-fold table and a Chi Square test of significance was then performed. No significant interaction between the two variables was obtained indicating that the number of visits to the supportive services was not contingent upon prior exposure to Whites (Table 8).

TABLE 8

A Chi Square Test of Significance for High Versus Low Prior Exposure to White Variable and Visits to Counselors and Tutors for the Summer Session (S-72)

Prior Exposure to Whites	Visits		
	Low	High	Total
High	19	11	30
Low	18	19	37
Total	37	30	67

$X^2 = 0.54$
df = 1
P .05

Question 5

Did the experimental group (E) show higher self-esteem than the control (C) group (a) at the end of the summer session (S-72) and (b) at the end of the subsequent semester (F-72)?

Tables 9-20 present the analyses of the data obtained on the Rosenburg Self-Esteem Scale at pre-test (T0) and post-test one and two (T1, T2). The data so obtained were treated as a dependent variable and subjected to an analysis of variance with the main effects being experimental treatment, sex, and prior exposure. Where significant differences were found the Duncan New Multiple Range Test was employed for further analysis. No significant differences on pre-test self-esteem scores were obtained for sex or for the assignment to experimental group supporting the concept of random assignment (Table 9). When the analysis was expanded to include the prior exposure to Whites variable and the interaction between prior exposure, sex, and the experimental intervention were explored, again, no significant differences were obtained (Table 10). Similar analyses were undertaken to explore sex, experimental effect, and prior exposure in relationship to the dependent measure of self-esteem obtained during the two post-test sessions (T1, T2). In these analyses none of the main effects or interactions were found to be significant (Tables 11, 12, 13, 14).

TABLE 9

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores of the Pre-Test (T0) by Group and Sex

Group	N	$\bar{X}$ (T0)	s
Group			
E	34	32.18	3.67
C	37	32.52	3.38
Sex			
M	27	31.81	3.45
F	40	31.85	3.67
Group X Sex			
EM	15	32.26	3.37
EF	18	32.72	3.98
CM	12	31.25	3.62
CF	22	31.13	3.32

Analysis of Variance

Source	SS	df	MS	F	P
Group	30.01	1	30.01	2.34	NS
Sex	0.50	1	0.50	0.03	NS
Group X Sex	1.29	1	1.29	0.10	NS
Total (error)	805.38	63	12.78		

TABLE 10

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores of Pre-Test (T0), Group, Sex, and Prior Exposure to Whites

Group	N	$\bar{X}$ (T0)	s
Group			
E	34	31.18	3.67
C	37	32.52	3.38
Sex			
M	27	31.81	3.45
F	40	31.85	3.67
Exposure			
H	30	32.07	3.75
L	37	31.65	3.44
Group X Sex			
EM	15	32.27	3.37
EF	18	32.72	3.98
CM	12	31.25	3.62
CF	22	31.14	3.32
Group X Exposure			
EH	18	32.55	3.96
EL	15	32.46	3.42
CH	12	31.33	3.45
CL	22	31.09	3.42
Sex X Exposure			
MH	13	32.46	3.43
ML	14	31.21	3.49
FH	17	31.76	4.05
FL	23	31.91	3.46
Group X Sex X Exposure			
EMH	11	32.36	3.64
EML	4	32.00	2.94
EFH	7	32.86	4.71
EFL	11	32.64	3.69
CMH	2	33.00	2.81
CML	10	30.90	3.78
CFH	10	31.00	3.59
CFL	12	31.25	3.25

Table 10 (concluded)

Analysis of Variance

Source	SS	df	MS	F	P
Sex	0.02	1	0.02	0.00	NS
Group	30.50	1	30.50	2.26	NS
Exposure	0.46	1	0.46	0.03	NS
Group X Sex	2.03	1	2.03	0.15	NS
Sex X Exposure	3.50	1	3.50	0.25	NS
Group X Exposure	0.00	1	0.00	0.00	NS
Group X Sex X Exposure	3.59	1	3.59	0.27	NS
Total (error)	797.10	59	13.51		

TABLE 11

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores of Post-Test (T1), Sex and Group

Group	N	$\bar{X}$ (T1)	s
Group			
E	33	32.76	4.35
C	34	32.38	4.35
Sex			
M	27	32.44	4.47
F	40	32.65	4.27
Group X Sex			
EM	15	32.14	4.42
EF	15	32.63	4.36
CM	12	33.28	4.11
CF	22	32.13	4.69

Analysis of Variance

Source	SS	df	MS	F	P
Group	2.36	1	2.36	0.12	NS
Sex	0.98	1	0.98	0.05	NS
Group X Sex	13.51	1	13.51	0.70	NS
Total (error)	1215.60	63	19.30		

TABLE 12

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores of Post-Test (T1) by Group, Sex, and Prior Exposure to Whites

Group	N	$\bar{X}$ (T1)	s
Group			
E	33	32.76	4.35
C	34	32.38	4.35
Sex			
M	27	32.44	4.47
F	40	32.65	4.27
Exposure			
H	30	31.83	4.46
L	37	33.16	4.17
Group X Sex			
EM	15	32.13	4.69
EF	18	33.28	4.11
CM	12	32.83	4.36
CF	22	32.14	4.42
Group X Exposure			
EH	18	31.67	4.34
EL	15	34.07	4.13
CH	12	32.08	4.83
CL	22	32.55	4.17
Sex X Exposure			
MH	13	32.67	5.01
ML	14	32.29	4.10
FH	17	31.24	4.05
FL	23	33.70	4.20
Group X Sex X Exposure			
EMH	11	31.82	5.04
EML	4	33.00	4.08
EFH	7	31.43	3.31
EFL	11	34.45	4.27
CMH	2	37.00	1.41
CML	10	32.00	4.29
CFH	10	31.10	4.68
CFL	12	33.00	4.20

Analysis of Variance

Source	SS	df	MS	F	P
Group	2.66	1	2.66	0.14	NS
Sex	0.68	1	0.68	0.04	NS
Exposure	33.45	1	33.45	1.78	NS
Group X Sex	3.79	1	3.79	0.20	NS
Sex X Exposure	47.87	1	47.87	2.54	NS
Group X Exposure	14.20	1	14.20	0.75	NS
Group X Sex X Exposure	18.82	1	18.82	0.10	NS
Total (error)	1110.98	59	18.83		

TABLE 13

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores of Post-Test (T2) by Group and Sex

Group	N	$\bar{X}$ (T2)	s
Group			
E	29	31.55	4.77
C	26	31.38	4.46
Sex			
M	22	31.73	4.19
F	33	31.30	4.89
Group X Sex			
EM	12	31.17	4.47
EF	17	31.82	5.10
CM	10	32.40	3.95
CF	16	30.75	4.77

Analysis of Variance

Source	SS	df	MS	F	P
Group	0.38	1	0.38	0.02	NS
Sex	2.32	1	2.32	0.11	NS
Group X Sex	17.47	1	17.47	0.80	NS
Total (error)	1117.54	51	21.91		

The next step of the analysis undertook to answer the question, "Did self-esteem increase significantly from pre-test (T0) to post-test (T1 or T2) when analyzed for sex, experimental treatment or prior exposure?" Change scores were generated by subtracting pre-test esteem scores from post-test esteem scores. This was done for each post-test session separately as follows:

T1 Change in Esteem = T1-T0

T2 Change in Esteem = T2-T0

These change scores were then treated as the dependent variable in the subsequent analyses of variance.

No significant results were obtained from the analysis of the main effects of sex and experimental treatment (Table 15). The T1-T0 change in esteem scores were analyzed in combination with the prior exposure variable, a statistically significant result was obtained at the .01 level for the effect of prior exposure to Whites. Duncan's Multiple Range Test was employed. Self-esteem did increase significantly for male and female students who had low prior exposure to Whites and decreased for students who had high prior exposure to Whites. When the experimental effect was explored in this analysis no significant results were obtained. The interaction between sex and prior exposure, however, was significant at the .05 level (Table 16). Descriptive data on the T1-T0 change in esteem scores are presented for the various subgroups in Tables 15 and 16.

TABLE 14

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores of Post-Test (T2) by Group, Sex, and Prior Exposure to Whites

Group	N	$\bar{X}$ (T2)	s
Group			
E	34	31.18	4.78
C	37	32.52	4.46
Sex			
M	22	31.73	4.19
F	33	31.30	4.89
Exposure			
H	26	31.81	4.49
L	29	31.17	4.74
Group X Sex			
EM	12	31.17	4.47
EF	17	31.82	5.10
CM	10	32.40	3.95
CF	16	30.75	4.77
Group X Exposure			
EH	16	31.50	4.05
EL	13	31.62	5.72
CH	10	32.30	5.31
CL	16	30.81	3.92
Sex X Exposure			
MH	11	32.00	4.24
ML	13	31.45	4.32
FH	15	31.67	4.81
FL	18	31.00	5.09
Group X Sex X Exposure			
EMH	9	30.78	3.63
EML	3	32.33	7.37
EFH	7	32.43	4.65
EFL	10	31.40	5.60
CMH	2	37.50	0.71
CML	8	31.13	3.27
CFH	8	31.00	5.16
CFL	8	30.50	4.69

Table 14 (concluded)

Analysis of Variance

Source	SS	df	MS	F	P
Group	0.33	1	0.33	0.02	NS
Sex	2.38	1	2.38	0.11	NS
Exposure	4.93	1	4.93	0.22	NS
Group X Sex	26.51	1	26.51	1.20	NS
Sex X Exposure	3.36	1	3.36	0.15	NS
Group X Exposure	12.68	1	12.68	0.57	NS
Group X Sex X Exposure	45.80	1	45.80	2.07	NS
Total (error)	1041.71	47	22.16		

TABLE 15

Test of the Significance of Difference Between Means for Self-Esteem Scale Change Scores of Pre-Test (T0) and Post-Test (T1) by Group and Sex

Group	N	$\bar{X}$ (T1-T0)	s
Group			
E	33	0.24	2.79
C	34	1.21	2.69
Sex			
M	27	0.63	2.68
F	40	0.80	2.86
Group X Sex			
EM	15	-0.13	2.88
EF	18	0.56	2.77
CM	12	1.58	2.15
CF	22	1.00	2.98

Analysis of Variance

Source	SS	df	MS	F	P
Group	18.61	1	18.61	2.43	NS
Sex	0.04	1	0.04	0.01	NS
Group X Sex	6.45	1	6.45	0.84	NS
Total (error)	483.09	63	7.67		

TABLE 16

Test of the Significance of Difference Between Means for Self-Esteem Scale Change Scores of Pre-Test (T0) and Post-Test (T1) by Group, Sex and Prior Exposure to Whites.

Group	N	$\bar{X}$ (T1-T0)	s
Group			
E	33	0.24	2.79
C	34	1.21	2.69
Sex			
M	27	0.63	2.68
F	40	0.80	2.86
Exposure			
H	30	-0.23	2.89
L	37	1.51	2.42
Group X Sex			
EM	15	-0.13	2.88
EF	18	0.56	2.77
CM	12	1.58	2.15
CF	22	1.00	2.98
Group X Exposure			
EH	18	-0.89	2.59
EL	15	1.60	2.47
CH	12	0.75	3.16
CL	22	1.46	2.44
Sex X Exposure			
MH	13	0.15	3.10
ML	14	1.07	2.23
FH	17	-0.52	2.79
FL	23	1.78	2.54
Group X Sex X Exposure			
EMH	11	-0.54	2.50
EML	4	1.00	3.92
EFH	7	-1.43	2.82
EFL	11	1.82	1.94
CMH	2	4.00	4.24
CML	10	1.10	1.45
CFH	10	0.10	2.73
CFL	12	1.75	3.08

Table 16 (concluded)

Analysis of Variance

Source	SS	df	MS	F	P
Group	15.54	1	15.54	2.28	NS
Sex	0.08	1	0.08	0.02	NS
Exposure	41.78	1	41.78	6.13	.01
Group X Sex	0.27	1	0.27	0.04	NS
Group X Exposure	13.90	1	13.90	2.04	NS
Sex X Exposure	15.49	1	15.49	3.74	.05
Group X Sex X Exposure	5.98	1	5.98	0.88	NS
Total (error)	402.13	59	6.82		

Duncan's New Multiple Range Test

FH	MH	ML	FL
		_____	
	_____		
_____			

The data were then analyzed to determine if self-esteem might be sustained over a longer period of time through the fall semester (F-72). Thus, the self-esteem scores obtained from the subtraction of pre-test (T0) data and the post-test (T2) data were similarly analyzed. This analysis showed no significant results either for the main effect of sex or experimental treatment or for the interactions among sex, experimental treatment and prior exposure to Whites. Again, the results of these analyses along with the subgroup descriptive statistics are presented in Tables 17 and 18.

An overall three-way analysis of variance utilizing self-esteem data obtained from the pre-test scores (T0) and from the two post-test scores (T1, T2) was undertaken. This analysis of variance therefore invoked an analysis of repeated measures. Again, no significant results from the effects of sex and experimental treatment were obtained. However, in the within group analysis there were significant differences obtained at the .01 level over time in the pre-test (T0) and two post-test (T1, T2) sessions. The mean self-esteem scores were highest during the pre-test (T0). Self-esteem scores were lowest at the end of the summer session (T1). However, scores moved upward again at the end of the fall semester (T2), but did not reach the initial level set during the pre-test (T0). Table 19 presents both the descriptive and inferential statistics

TABLE 17

Test of the Significance of Difference Between Means for Self-Esteem Change Scores of Pre-Test (T0) and Post-Test (T2) by Group and Sex

Group	N	$\bar{X}$ (T2-T0)	s
Group			
E	29	-1.35	3.99
C	26	0.04	3.57
Sex			
M	22	-0.45	3.61
F	33	-0.85	4.01
Group X Sex			
EM	12	-1.58	3.12
EF	17	1.18	4.60
CM	10	0.90	3.84
CF	16	0.50	3.41

Analysis of Variance

Source	SS	df	MS	F	P
Group	26.23	1	26.23	1.78	NS
Sex	2.51	1	2.51	0.17	NS
Group X Sex	10.72	1	10.72	0.73	NS
Total (error)	752.29	51	14.75		

TABLE 18

Test of the Significance of Difference Between Means for Self-Esteem Change Scores of Pre-Test (T0) and Post-Test (T2) by Group, Sex, and Prior Exposure to Whites

Group	N	$\bar{X}$ (T2-T0)	s
Group			
E	29	-1.35	3.99
C	26	0.04	3.57
Sex			
M	22	-0.45	3.61
F	33	-0.85	4.01
Exposure			
H	26	-0.73	3.73
L	29	-0.66	3.98
Group X Sex			
EM	12	-1.58	3.12
EF	17	-1.18	4.60
CM	10	0.90	3.84
CF	16	-0.50	3.41
Group X Exposure			
EM	16	-1.37	3.28
EF	13	-1.30	4.87
CM	10	0.30	4.32
CF	16	-0.12	3.16
Sex X Exposure			
MH	11	-0.90	3.78
ML	11	0.00	3.55
FH	15	-0.60	3.81
FL	18	-1.06	4.27
Group X Sex X Exposure			
EMH	9	-2.11	2.71
EML	3	0.00	4.36
EFH	7	-0.43	3.91
EFL	10	-1.70	5.16
CMH	2	4.50	3.54
CML	8	0.00	3.55
CFH	8	-0.75	3.99
CFL	8	-0.25	2.96

Analysis of Variance

Source	SS	df	MS	F	P
Group	26.23	1	26.23	1.76	NS
Sex	2.51	1	2.51	0.17	NS
Exposure	0.27	1	0.27	0.02	NS
Group X Sex	13.15	1	13.15	0.88	NS
Group X Exposure	2.16	1	2.16	0.15	NS
Sex X Exposure	0.24	1	0.24	0.02	NS
Group X Sex X Exposure	44.98	1	44.98	3.01	NS
Total (error)	702.20	47	14.94		

TABLE 19

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores with Repeated Measures for Pre-Test (T0), Post-Test (T1) and Post-Test (T2) by Group and Sex

Group	N	$\bar{X}$ (T0,T1,T2)	s
Group			
E	87	32.61	4.13
C	78	31.73	4.12
Sex			
M	66	32.41	3.83
F	99	32.05	4.34
Group X Sex			
EM	36	32.39	3.79
EF	51	32.76	4.39
CM	30	32.43	3.95
CF	48	31.95	4.21
T0,T1,T2			
T0	55	32.95	4.26
T1	55	31.47	4.59
T2	55	32.16	3.42
Group X T0,T1,T2			
ET0	29	33.38	3.95
ET1	29	31.55	4.77
ET2	29	32.90	3.48
CT0	26	32.46	4.61
CT1	26	31.38	4.46
CT2	26	31.35	3.22
Sex X T0,T1,T2			
MT0	22	33.32	3.98
MT1	22	31.73	4.19
MT2	22	32.18	3.27
FT0	33	32.70	4.47
FT1	33	31.30	4.89
FT2	33	32.15	3.57

Table 19 (continued)

Group	N	$\bar{X}$ (T0,T1,T2)	s
Group X Sex X T0,T1,T2			
EMT0	12	33.25	3.81
EMT1	12	31.17	4.47
EMT2	12	32.75	2.93
EFT0	17	33.47	4.15
EFT1	17	31.82	5.10
EFT2	17	33.00	3.92
CMT0	10	33.40	4.37
CMT1	10	32.40	3.95
CMT2	10	31.50	3.69
CFT0	16	31.88	4.79
CFT1	16	30.75	4.77
CFT2	16	31.25	3.02

Table 19 (concluded)

Analysis of Variance

Source	SS	df	MS	F	P
Between Subjects		54			
Group	20.09	1	20.09	0.51	NS
Sex	5.77	1	5.77	0.14	NS
Group X Sex	22.67	1	22.67	0.58	NS
Subjects with Group [error (between)]	1987.68	51	38.97		
Within Subjects		110			
T0,T1,T2	56.97	2	28.49	4.26	.01
Group X T0,T1,T2	16.39	2	8.19	1.23	NS
Sex X T0,T1,T2	3.05	2	1.52	0.23	NS
Group X Sex X T0,T1,T2	5.61	2	2.81	0.42	NS
Semester X Subjects with Groups [error (within)]	682.24	102	6.69		

Duncan's New Multiple Range Test

T1	T2	T0

relevant to this analysis.

To conclude the data analysis on self-esteem a four-way analysis of variance with repeated measures was accomplished (Winer, 1971). Variables included self-esteem pre-test (T0), post-test 1 (T1) and post-test 2 (T2), and the effects of sex, treatment and prior exposure to Whites were analyzed. The results of self-esteem and group, self-esteem and exposure, self-esteem with group, sex, and exposure did not yield statistically significant results. (Table 20).

Question 6

Did the experimental group (E) show more positive perception of environment than the control (C) group at the end of (a) the summer session (S-72) and (b) the subsequent semester (F-72)?

Data from pre-test, post-test one and two (T0, T1, T2) of the CUES was analyzed to determine if there were significant differences on any of the seven CUES scales. The scales were practicality (PR), community (CO), intellectual awareness (IA), proprietary (PO), scholarship (SC), campus morale (MO), quality of teaching and faculty student relationship (TE). The statistic used to analyze this data was the Hotelling's T^2 (Overall and Klett, 1972), which is the multivariate analogue of the univariate t-test. While the t-test is used to test significant differences between two means, the Hotelling's T^2 is used to test significant dif-

TABLE 20

Test of the Significance of Difference Between Means for Self-Esteem Scale Raw Scores with Repeated Measures for Pre-Test (T0) and Post-Test (T1, T2) by Group, Sex and Prior Exposure to Whites

Group	N	$\bar{X}$ (T0,T1,T2)	s
Group			
E	87	32.61	4.13
C	78	31.73	4.12
Sex			
M	66	32.41	3.83
F	99	32.05	4.34
Exposure			
H	78	32.20	4.01
L	87	31.18	4.28
T0,T1,T2			
T0	55	32.95	4.26
T1	55	31.47	4.59
T2	55	32.16	3.42
Group X Sex			
EM	36	32.39	3.79
EF	51	32.76	4.39
CM	30	32.43	3.95
CF	48	31.29	4.21
Group X Exposure			
EH	48	32.16	3.80
EL	39	31.15	4.49
CH	30	32.26	4.38
CL	48	31.39	3.96
Group X T0,T1,T2			
ET0	29	33.38	3.95
ET1	29	31.55	4.77
ET2	29	32.90	3.48
CT0	26	32.46	4.61
CT1	26	31.38	4.46
CT2	26	31.35	3.22

Table 20 (continued)

Group	N	$\bar{X}$ (T0,T1,T2)	s
Sex X Exposure			
MH	33	32.78	3.74
ML	33	32.03	3.95
FH	45	31.77	4.18
FL	54	32.27	4.49
Sex X T0,T1,T2			
MT0	22	33.32	3.98
MT1	22	31.73	4.19
MT2	22	32.18	3.27
FT0	33	32.70	4.47
FT1	33	31.30	4.89
FT2	33	32.15	3.57
T0,T1,T2 X Exposure			
T0H	26	32.26	4.26
T0L	29	33.55	4.31
T1H	26	31.81	4.49
T1L	29	31.17	4.74
T2H	26	32.54	3.34
T2L	29	31.82	3.53
Group X Sex X Exposure			
EMH	27	32.11	3.64
EML	9	33.22	4.32
EFH	21	32.24	4.09
EFL	30	33.13	4.61
CMH	6	35.83	2.64
CML	24	31.58	3.79
CFH	24	31.37	4.30
CFL	24	31.21	4.20
Group X Sex X T0,T1,T2			
EMT0	12	33.25	3.81
EMT1	12	31.17	4.47
EMT2	12	32.75	2.93
EFT0	17	33.47	4.15
EFT1	17	31.82	5.10
EFT2	17	33.00	3.92
CMT0	10	33.40	4.37
CMT1	10	32.40	3.95
CMT2	10	31.50	3.69
CFT0	16	31.88	4.79
CFT1	16	30.75	4.77
CFT2	16	31.25	3.02

Table 20 (continued)

Group	N	$\bar{X}$ (T0,T1,T2)	s
Group X T0,T1,T2 X Exposure			
ET0H	16	32.12	3.81
ET0L	13	34.92	3.68
ET1H	16	31.50	4.04
ET1L	13	31.61	5.72
ET2H	16	32.87	3.67
ET2L	13	32.92	3.40
CT0H	10	32.50	5.04
CT0L	16	32.44	4.49
CT1H	10	32.30	5.31
CT1L	16	31.81	3.92
CT2H	10	32.00	2.83
CT2L	16	30.94	3.47
Group X Sex X T0,T1,T2 X Exposure			
EMT0H	9	32.66	4.27
EMT0L	3	35.00	1.00
EMT1H	9	30.78	3.63
EMT1L	3	32.23	3.51
EMT2H	9	32.89	2.93
EMT2L	3	32.33	7.37
EFT0H	7	31.43	3.31
EFT0L	10	34.90	4.23
EFT1H	7	32.43	4.65
EFT1L	10	31.40	5.60
EFT2H	7	32.86	4.70
EFT2L	10	33.10	3.51
CMT0H	2	37.00	5.15
CMT0L	8	32.50	4.69
CMT1H	2	37.50	0.71
CMT1L	8	31.12	3.27
CMT2H	2	33.00	2.83
CMT2L	8	31.12	3.94
CFT0H	8	31.00	2.96
CFT0L	8	32.38	1.41
CFT1H	8	31.00	4.44
CFT1L	8	30.50	5.19
CFT2H	8	31.75	5.01
CFT2L	8	30.75	4.84

Table 20 (continued)

Analysis of Variance

Source	SS	df	MS	F	P
Between Subjects		100			
Group	0.95	1	0.95	0.02	NS
Sex	44.15	1	44.15	1.10	NS
Exposure	11.15	1	11.15	0.28	NS
Group X Sex	45.57	1	45.57	1.14	NS
Group X Exposure	79.22	1	79.22	1.98	NS
Sex X Exposure	28.72	1	28.72	0.72	NS
Group X Sex X Exposure	35.49	1	35.49	0.89	NS
Subjects with Groups [error (between)]	1882.41	47	40.05		

Table 20 (concluded)

Analysis of Variance

Source	SS	df	MS	F	P
Within Subjects		64			
T0,T1,T2	41.24	2	20.62	3.21	.05
Group X T0,T1,T2	19.17	2	9.58	1.49	NS
Sex X T0,T1,T2	14.79	2	7.39	1.15	NS
T0,T1,T2 X Exposure	24.54	2	12.27	1.91	NS
Group X Sex X T0,T1,T2	9.82	2	4.91	0.76	NS
Group X T0,T1,T2 X Exposure	15.46	2	7.73	1.21	NS
Sex X T0,T1,T2 X Exposure	8.20	2	4.10	0.64	NS
Group X Sex X T0,T1,T2 X Exposure	22.49	2	11.24	1.75	NS
T0,T1,T2 X Subjects with Groups [error (within)]	602.85	94	6.41		

Duncan's New Multiple Range Test

T1	T2	T0

ferences between two groups on any number of means simultaneously. This analysis treated each of the seven CUE scales as a mean vector rather than a mean scalar. No significant differences were found in this analysis (Tables 21 and 22). The Hotelling's T^2 was computed on the result of subtracting each subjects post-test (T1) CUES from the pre-test (T0) CUES. Another Hotelling's T^2 was computed on the data resulting from subtracting each subjects post-test (T2) CUES from the pre-test (T0) CUES.

TABLE 21

Summary of Hotelling's T^2 Between Experimental (N = 33) and Control (N = 34) Groups Comparing CUES Pre-Test (T0) with CUES Post-Test (T1)

Correlation Matrix

PR	1.00						
CO	0.44	1.00					
IA	0.39	0.52	1.00				
PO	0.47	0.59	0.49	1.00			
SC	0.01	0.36	0.27	0.20	1.00		
MO	0.27	0.51	0.61	0.49	0.47	1.00	
TE	0.08	0.44	0.46	0.29	0.19	0.35	1.00

Variable	E (T1-T0)	C (T1-T0)	E-C (T2-T0)	t
PR				
$\bar{X}$	-5.24	-4.00	-1.24	
s	4.53	4.25	1.19	-1.04
CO				
$\bar{X}$	-7.62	-5.92	-1.70	
s	4.01	4.05	1.09	1.56
IA				
$\bar{X}$	-2.72	-3.54	0.81	
s	5.49	5.64	1.50	0.54
PO				
$\bar{X}$	-5.34	-5.12	-0.23	
s	6.19	4.60	1.48	-0.16
SC				
$\bar{X}$	-0.59	-2.08	1.49	
s	6.06	4.86	1.49	1.00
MO				
$\bar{X}$	-3.90	-3.31	-0.59	
s	3.99	4.42	1.13	-0.52
TE				
$\bar{X}$	-1.52	-0.92	-0.59	
s	2.29	2.02	0.59	-1.02

Hotelling's T^2 = 10.381
F = 1.3151
df = 7, 47
Not Significant at .05

TABLE 22

Summary of Hotelling's T^2 Between Experimental (N = 27) and Control (N = 26) Groups Comparing CUES Pre-Test (T0) with CUES Post-Test (T2)

Correlation Matrix

PR	1.00						
CO	0.27	1.00					
IA	0.24	0.55	1.00				
PO	0.37	0.47	0.63	1.00			
SC	0.06	0.32	0.45	0.37	1.00		
MO	0.12	0.36	0.60	0.45	0.57	1.00	
TE	0.10	0.50	0.59	0.26	0.24	0.42	1.00

Variable	E (T2-T0)	C (T2-T0)	E-C (T2-T0)	t
PR				
$\bar{X}$	-1.91	-0.88	-1.03	
s	4.63	3.35	0.99	-1.04
CO				
$\bar{X}$	-2.13	-1.59	-0.53	
s	5.91	4.35	1.27	-0.42
IA				
$\bar{X}$	-1.52	-1.29	-0.22	
s	5.01	4.55	1.17	-0.19
PO				
$\bar{X}$	-3.12	-1.85	-1.27	
s	5.67	5.43	1.36	-0.94
SC				
$\bar{X}$	-2.55	-3.06	0.51	
s	4.27	3.29	0.93	0.55
MO				
$\bar{X}$	-2.06	-1.59	-0.47	
s	4.46	3.57	0.00	0.48
TE				
$\bar{X}$	0.0	0.03	-0.03	
s	2.08	2.35	0.54	-0.05

Hotelling's T^2 = 2.228
F = 0.2889
df = 7, 59
Not Significant at .05

CHAPTER V

CONCLUSIONS AND DISCUSSION

The purpose of this study was to determine the effects on academic success of experience in a summer program for incoming Black students, and the continuing effect in the following semester. Since, for some of these students this summer program constituted their first exposure to Whites of any import, the variable of prior exposure to Whites was taken into account.

The major consensus among educators is that many students who fail to meet traditional entrance requirements such as SAT, ACT scores and high school grade point averages can, and do survive in college with successful outcomes. Some investigators have found an increase of success significantly greater with support programs (Green, 1969). This suggests that inability to adjust to the college milieu, rather than intellectual incapability may be a significant cause of students dropping out of college. This is especially true where inability is associated with a lack of personal attention or undefined vocational goals (Chase, 1968).

The findings in this study indicate that the experimental treatment which included additional laboratory sessions and special group counseling did not make differences

insofar as the number of students that dropped out during the summer session and fall semester. Students dropped out of school for many reasons. During the course of this study, however, most of those students who did dropout did so for academic reasons. Those students who received special kinds of treatment, that is, special classes and group counseling did not, in fact, fare any better than those who did not. The dropout rate for both the experimental and control groups at the end of the summer session and fall semester was about equal.

At the University of Missouri as in most institutions of higher education, grade point averages is the criterion that determines success in school. Therefore, there were no statistically significant differences in the mean GPA's of those students in the experimental and control groups at the end of the summer session or fall semester. This same phenomena held true for males and females.

When looking at the interactive effect of group, sex and exposure on GPA, a very interesting phenomenon occurred. Of the four low exposure groups, two of them (EML and CFL) made the highest GPA and two of them (CML and EFL) made the lowest GPA with the four high exposure groups falling in between. Consequently, prior exposure to Whites may be an important variable. The treatment seemed to have no effect on Black males with high prior exposure to Whites and perhaps a negative effect on Black females with high exposure

to Whites as far as GPA was concerned.

It was the thinking of the writer that those students having higher prior exposure to White persons would make more use of the available supportive services, i.e., counseling and tutoring, than would the low prior exposure students by the end of the summer session. The research indicates that there was no greater use by those students who had high prior exposure to Whites than those who had low prior exposure to Whites.

Pifer and Sedlacek (1970) found that self-concept was an important variable in the success of Black students at the University of Maryland. This agreed with a study by DiCesare, Sedlacek and Brooks (1970) where they found a picture emerging of Black students returning to the University for the second semester with more self-confidence and higher expectations than non-returnees. In short, the investigators noted that it appeared that Black students who stayed had a stronger self-concept and took a more realistic view than non-returning Blacks.

The researcher in the present study found minor changes in self-esteem between the experimental and control groups. However, when the variable of prior exposure to Whites is added to the analysis, the interaction made a difference. This is to say that self-esteem interacting with prior exposure to Whites did make a difference. Self-esteem increased for low prior exposure males and decreased

for those males who had high prior exposure. Both male groups (high and low exposure) increased in self-esteem from pre-test (T0) to post-test (T1, T2); whereas, the high exposure female decreased and the low exposure females increased in self-esteem when taken as a sub-group. These changes seem to be transient since when comparisons were made between the second post-test (T2) and the pre-test (T0) no significant changes were found.

The writer theorized that the perception about the environment would increase significantly for the experimental as indicated by the CUES. However, when the two groups were compared in a pre and post-test model only slight changes in the perceptions about the environment occurred. This suggests that perception about environment was not a function of experimental intervention.

Conclusions

The following conclusions may be drawn from the results of this study:

1. The dropout rate for Black students at the end of the summer session and the subsequent semester was not affected by the experimental treatment.

2. The grade point averages for Black students at the end of the summer session and subsequent semester was not affected by experimental treatment.

3. Grade point averages for Black students did vary

as an interaction of treatment group and sex as well as with the interaction between group, sex, summer session and fall semester. The summer session grade point averages for the total population were much higher than the fall semester grade point averages. Of the four low exposure groups, two of them (EML and CFL) made the highest GPA and two of them (CML and EFL) made the lowest GPA with the four high exposure groups falling in between. Consequently, prior exposure to Whites may be an important variable. The treatment seemed to have no effect on Black males with high prior exposure to Whites and perhaps a negative effect on Black females with high exposure to Whites as far as GPA was concerned.

4. The amount of prior exposure to Whites had no relationship to the number of visits the Black students made to counselors and tutors during the summer session.

5. Self-esteem dropped for Black students by the end of the summer session, but showed an increase for the low prior exposure males by the close of the fall semester.

6. Black students perception about the environment did not change from the beginning of the summer session to the end of the fall semester.

Discussion

As has been found with many pilot programs of this nature, Project START was not without its problems. Since

money was and had been a problem to the students most of their lives, the carry-over effect was felt during the course of the summer session. Financial aid was offered under federal guidelines which meant some of the students were given a financial aid package which included a loan. This caused varying degrees of cognitive dissonance. The word "loan" to many inner-city Blacks is highly derogatory. In their perception this meant loan shark, twenty-eight percent interest, threats of intimidation, "trick bag," "snow job," and definitely not an encouraging thing to take. Consequently, the morale of the students was affected. This gave rise to speculations of a drop in class attendance during the summer school. Fortunately, by the end of the eight-week summer session the students had adjusted to the idea. This was mainly due to the financial aid director and his staff holding individual sessions to assure the students that loans administered by the University are fair.

Verbal feedback from students and residence hall staff indicated that residence hall living was beneficial. The students through their living arrangement were able to make contact with other students from varying backgrounds. They were able to take part in all of the activities and programs provided by University housing. The housing staff, however, did encounter some problems in dealing with the culturally different. Common occurances such as noise

levels, "corn rowing" Afro hair-styles in the student lounge and a perceived disrespect for some staff members, all proved to create problems. However, sessions were held periodically to air the grievances of students and staff. These sessions proved to be very profitable for both students and staff.

Perceptions about the role of the counselor thwarted attempts to encourage greater use of the counseling services. Feedback from students indicated that they looked upon a counselor as someone who made up a class schedule, or someone to see for psychiatric problems. These perceptions probably were carry-overs from their high school years. Generally, group counseling appeared to be well received by most of those who participated. However, there were some exceptions. The experimental group, low exposure males, were "turned off" by the attempts of some counselors to hold sensitivity sessions. They felt that they had no need for fun and games and, thereby, became hardcore nonconformist. Some counselors indicated that they felt comfortable with that kind of group session because of their training. Consequently, they made few attempts to revise the format for the group sessions. Those counselors who revised the format for the group sessions got cooperation from the students. Group and individual needs were met in those sessions and added to the enthusiasm.

Due to the small number of White students that en-

rolled in English Composition and College Algebra during the summer session, some of the laboratory sessions were all Black. This did not present a realistic picture. This made it difficult for the White instructors to communicate with students individually. Because of the cohesiveness among Black students, it became virtually improbable for a White instructor to criticize a Black student in class.

In the future, plans should be made to offer the students in the START Program a choice of more courses. This would prevent the stacking of Black students into too few classes. Furthermore, students who select certain majors are not required to have College Algebra credits.

During the fall semester all Project START students found themselves in a totally different situation. In all of their classes they were in the minority. Invariably, some sat in classes where they were the only Black in attendance. Since these students had been told by advisers that this could be expected during the fall semester, the shock was minimized.

The following recommendations are made for future Project START Programs:

That this study be replicated and a larger sample be used in further research of the problem.

That Project START students receive additional counseling and tutoring through the academic year.

That a pre-summer session workshop for teachers and

student personnel workers be held prior to the beginning of the program in order to acquaint personnel with information on working with culturally different students.

That group counseling sessions be expanded to include more task oriented projects as well as a wider use of diagnostic and prognostic instruments in assessing interest, skills, and goals.

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Appendix A

Raw Data

Subject	Sex	Group	Exposure	GPA S-72	GPA F-72	CUES T0	CUES T1	CUES T2	Self-Esteem T0	Self-Esteem T1	Self-Esteem T2
1	F	E	H	2.00	1.58	20/20/19/16/14/18/6	26/21/22/15/14/16/6	12/11/17/10/22/13/5	36	33	36
2	F	C	H	2.50	2.15	12/21/22/21/17/15/7	18/26/26/28/18/20/10	18/16/20/17/15/13/5	33	36	36
3	M	E	L	4.00	2.46	14/17/16/17/20/14/4	15/18/16/12/18/14/8	13/ 8/20/ 9/24/12/4	32	35	35
4	F	C	L	2.00	2.07	21/23/15/22/19/15/5	20/28/21/25/19/18/7	12/18/17/19/20/12/6	32	39	30
5	F	E	L	1.00	0.60	24/22/23/22/12/12/4	17/16/13/10/ 8/ 8/5	17/19/20/18/19/13/6	29	29	28
6	F	C	L	0.50	0.00	21/24/25/19/15/14/6	21/20/26/20/16/14/5	0/ 0/ 0/ 0/ 0/ 0/0	27	32	0
7	F	C	H	2.50	1/17	17/27/24/26/18/19/8	19/22/15/26/11/14/5	18/19/16/15/11/12/8	28	23	23
8	F	C	L	0.00	0.00	25/23/25/27/20/19/8	18/18/16/ 9/13/12/5	0/ 0/ 0/ 0/ 0/ 0/0	35	33	0
9	M	E	H	1.00	1.13	25/22/21/21/16/14/8	21/20/15/15/11/10/3	15/17/19/15/21/11/7	31	29	30
10	M	C	H	2.00	0.77	26/25/24/21/21/21/8	26/25/27/25/16/20/7	19/18/17/20/11/12/5	35	36	37
11	F	E	L	1.50	1/12	21/27/25/28/19/20/7	15/24/24/21/12/15/6	14/19/18/15/12/12/5	34	34	21
12	M	E	L	3.00	1.62	14/26/15/15/21/16/8	19/20/14/15/12/ 8/8	13/16/14/15/16/10/4	36	36	38
13	F	E	L	2.00	1.70	25/26/17/26/13/17/8	20/22/24/21/ 9/15/8	10/11/ 4/10/10/14/3	26	31	30
14	M	E	H	2.00	2.17	17/27/21/14/19/14/8	15/15/14/15/14/11/8	13/11/18/16/17/11/5	34	31	34
15	F	C	L	2.00	1.62	21/25/21/21/14/14/6	15/22/18/13/13/12/9	16/16/16/ 8/11/ 6/6	25	25	21
16	F	C	H	1.50	0.31	17/21/20/18/18/13/5	14/17/12/15/11/ 7/5	17/14/22/15/19/13/3	32	34	29
17	F	E	L	2.00	0.90	13/23/17/21/22/13/7	20/20/18/15/17/18/6	11/12/17/13/14/14/6	36	40	29

Appendix A (continued)

Raw Data

Subject	Sex	Group	Exposure	GPA S-72	GPA F-72	CUES T0	CUES T1	CUES T2	Self-Esteem T0	Self-Esteem T1	Self-Esteem T2
18	M	E	H	3.50	1.74	26/25/27/28/16/19/9	27/26/23/23/13/15/7	13/15/15/15/16/11/4	37	37	30
19	M	E	H	0.50	0.00	19/26/19/25/13/13/5	7/ 5/ 7/ 6/ 8/ 5/3	0/ 0/ 0/ 0/ 0/ 0/0	35	34	0
20	M	C	L	1.00	1.31	14/22/15/19/16/13/8	18/19/15/10/14/14/8	12/16/12/17/22/12/5	32	30	28
21	F	C	H	2.50	1.23	24/24/26/26/14/18/8	23/22/26/27/13/18/7	20/13/15/18/16/13/5	35	36	34
22	F	E	H	3.50	1.92	18/18/17/16/15/16/8	15/21/15/19/11/11/7	11/10/21/11/18/12/5	35	35	36
23	F	C	H	2.50	1.00	19/21/21/23/20/16/7	18/20/26/20/14/13/9	18/18/20/19/14/16/7	32	31	26
24	M	E	H	0.00	0.00	26/28/27/28/17/17/8	24/24/25/27/16/17/	0/ 0/ 0/ 0/ 0/ 0/0	25	22	0
25	F	E	L	2.00	1.00	20/24/23/26/24/20/8	19/24/25/22/13/17/8	13/13/13/17/15/14/4	29	29	27
26	M	C	L	2.00	0.00	19/24/29/23/19/22/10	19/19/17/20/14/17/5	15/14/18/17/15/13/5	35	37	29
27	M	C	H	2.00	2.23	25/26/27/30/19/21/7	22/21/23/21/15/17/9	16/12/13/17/10/ 9/4	31	38	38
28	F	C	L	2.00	0.00	13/15/12/14/16/ 7/3	17/10/12/16/13/ 9/5	13/14/16/15/18/ 7/6	28	28	33
29	F	C	H	0.00	0.00	23/28/22/21/20/14/8	22/24/18/21/22/16/7	0/ 0/ 0/ 0/ 0/ 0/0	32	33	0
30	M	E	L	0.00	0.00	23/25/20/21/20/18/8	23/27/25/25/21/18/10	0/ 0/ 0/ 0/ 0/ 0/0	31	27	0
31	F	C	L	1.00	0.00	22/24/23/20/20/15/9	12/15/21/18/17/16/8	0/ 0/ 0/ 0/ 0/ 0/0	34	34	0
32	M	E	H	2.00	1.23	20/25/22/24/15/14/9	26/22/23/23/13/13/7	14/15/14/17/15/15/7	28	31	27
33	F	C	H	2.50	1.38	13/18/21/17/13/14/6	17/17/24/16/10/12/7	12/ 8/15/17/13/14/4	36	36	36
34	E	E	H	1.50	0.75	13/15/12/10/12/14/9	21/22/17/12/17/16/8	20/15/15/17/12/ 7/7	32	30	24

Appendix A (continued)

Raw Data

Subject	Sex	Group	Exposure	GPA S-72	GPA F-72	CUES T0	CUES T1	CUES T2	Self-Esteem T0	Self-Esteem T1	Self-Esteem T2
35	M	C	L	2.00	1.83	22/23/21/24/11/15/7	19/23/19/20/11/13/10	14/16/15/15/10/11/6	36	39	37
36	M	E	H	2.50	1.58	16/18/11/11/17/ 7/3	14/18/14/19/12/15/5	17/13/16/16/18/11/6	35	35	34
37	F	E	H	2.00	0.79	19/25/17/18/13/12/6	10/13/15/11/17/ 7/5	15/12/15/17/17/ 9/6	36	31	35
38	F	C	H	2.50	0.96	21/21/24/24/16/19/6	21/21/18/19/14/10/8	16/19/18/17/21/11/7	30	26	36
39	M	E	H	2.00	1.33	22/25/23/25/12/14/6	22/28/23/25/14/15/6	12/18/18/19/17/13/6	30	26	24
40	F	C	H	2.50	0.92	20/21/20/24/10/15/5	18/20/22/20/12/14/9	19/19/21/17/17/16/6	28	29	28
41	M	E	H	2.00	1.17	18/26/23/29/20/20/9	11/22/17/14/20/11/8	11/17/15/14/17/11/4	33	34	30
42	F	C	H	0.00	0.00	20/24/22/23/13/15/7	21/23/18/22/13/13/5	0/ 0/ 0/ 0/ 0/ 0/0	24	27	0
43	F	E	L	2.00	0.75	26/25/26/30/19/19/7	25/25/26/29/13/18/8	18/16/21/18/11/13/6	37	40	39
44	M	C	L	0.50	0.96	20/25/18/19/20/16/6	24/23/23/19/16/14/7	13/18/19/17/ 9/ 9/6	28	30	32
45	M	E	H	1.50	0.85	20/18/21/16/14/14/7	14/14/12/14/13/10/6	16/19/21/18/13/13/5	32	31	33
46	F	E	L	1.00	1.69	17/15/15/18/14/11/5	17/19/22/19/15/17/8	14/11/17/19/22/ 9/3	32	31	29
47	F	E	L	2.00	1.00	19/22/26/24/19/18/8	18/21/18/18/13/10/7	20/18/20/16/15/ 9/5	35	36	34
48	M	C	L	2.00	1.04	15/17/12/18/20/13/7	19/20/15/15/16/10/5	13/15/20/15/18/10/9	30	31	29
49	F	E	L	2.50	1.67	21/25/26/26/17/19/7	18/21/18/24/ 9/10/7	19/15/16/14/ 9/12/4	31	31	29
50	F	C	L	4.00	1.94	19/22/13/16/19/ 9/8	14/ 9/ 7/ 4/10/ 7/3	15/12/11/15/16/ 8/5	33	33	35
51	F	E	H	1.00	0.00	20/21/19/18/13/14/8	19/20/13/16/12/12/5	17/12/15/15/14/10/4	36	32	35

Appendix A (concluded)

Raw Data

Subject	Sex	Group	Exposure	GPA S-72	GPA F-72	CUES T0	CUES T1	CUES T2	Self-Esteem T0	Self-Esteem T1	Self-Esteem T2
52	M	C	L	2.00	1.80	23/20/19/18/19/16/6	22/18/20/21/16/15/4	11/17/14/19/15/11/5	26	28	29
53	F	E	H	2.00	1.60	23/21/22/24/18/19/6	21/21/21/24/19/16/8	20/17/20/22/13/11/6	32	34	33
54	M	C	L	0.00	0.00	19/23/20/20/16/18/6	14/20/18/17/13/12/4	0/ 0/ 0/ 0/ 0/ 0/0	27	27	0
55	F	C	L	0.00	0.00	24/27/22/21/18/16/7	20/26/20/24/16/12/7	0/ 0/ 0/ 0/ 0/ 0/0	33	38	30
56	F	C	L	1.50	1.16	19/21/15/19/16/ 9/6	20/18/18/19/12/10/5	6/16/16/11/15/11/7	32	33	30
57	F	C	L	4.00	2.38	17/17/23/15/19/15/4	21/25/21/26/13/15/9	19/17/18/14/17/11/5	32	38	34
58	F	E	H	2.00	1.31	19/23/15/23/16/13/3	13/22/14/11/13/15/7	14/14/16/17/18/12/7	23	25	28
59	F	E	L	0.50	0.00	24/ 8/22/13/ 9/ 8/2	20/21/22/17/17/16/4	0/ 0/ 0/ 0/ 0/ 0/0	28	30	0
60	M	C	L	0.00	0.00	27/22/28/27/23/19/8	27/23/26/27/17/18/9	0/ 0/ 0/ 0/ 0/ 0/0	33	33	0
61	M	C	L	2.00	2.00	17/17/20/23/14/11/6	16/26/22/26/18/18/7	19/17/12/14/11/13/5	27	28	30
62	M	E	H	3.50	1.80	16/15/ 7/10/ 5/ 5/4	9/10/11/ 8/ 7/ 4/5	10/13/17/15/18/10/3	36	40	35
63	F	C	L	3.00	2.00	14/14/11/10/10/ 2/5	13/16/12/ 7/ 6/ 5/5	6/15/18/12/14/10/6	35	34	34
64	M	E	L	2.00	1.00	23/21/19/25/22/18/5	21/23/25/25/14/16/9	12/16/20/14/10/11/7	29	34	24
65	M	C	L	1.50	0.67	19/26/22/24/18/15/8	17/21/14/18/16/ 7/7	19/16/14/11/13/10/6	35	37	35
66	F	E	L	2.00	0.71	21/23/20/20/15/15/7	20/16/17/12/13/12/5	13/13/16/10/14/ 7/4	35	38	39
67	F	E	L	3.50	0.50	23/24/22/19/24/19/6	21/20/19/19/12/12/6	17/16/10/14/13/ 9/4	36	39	36

Appendix B

STRUCTURED INTERVIEW SHEET for ASSESSING PRIOR EXPERIENCE with WHITES

	Almost entirely White 90% +	Mostly White 75%	About Half & Half 50-50	Mostly Black 75%	Almost entirely Black 90% +
Your Neighborhood is:					
Students in your High School are:					
Teachers in your High School are:					
Your Church is:					
Your Friends are:					
Your Parents' Friends are:					
The Parties you Attend are:					

How much prior exposure to Whites would you say you have had?_____

Comments: _____